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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,428	09/13/2000	Toshikazu Hori	21.1967/WMS	8410

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EXAMINER

LE, BRIAN Q

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,428

Applicant(s)

HORI ET AL.

Examiner

Brian Q Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Drawings

1. New corrected drawings are required in this application because of the elements 10, 12, 15, 18 and 20 of FIG. 1. The term 'device' is not appropriately used in this drawing. One skilled in the art is not quite clear in understanding the multiple devices are existed inside the character recognition device. The character recognition device would be appropriate to have multiple software modules that perform different functionalities of the character recognition device. However, it does not seem to have different hardware/device to perform the designed functions inside the character recognition device. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

2. Claims 1-14 objected to because of the following informalities: The term 'device' is not appropriately used in the aforementioned claims. One skilled in the art is not quite clear in understanding the multiple devices ("multiple recognition device", "extraction device", "output device", "first recognition device", "second recognition device") exist inside the character recognition device. The character recognition device would be appropriate to have multiple software modules that perform different functionalities of the character recognition device. However, it does not seem to have different hardware/device to perform the designed functions inside the character recognition device. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “multiple recognition device”, “extraction device”, “output device”, “first recognition device”, “second recognition device” in claims 1-14 is used by the claim to mean “different hardware/device from the character recognition device”, while the accepted meaning is “software/module/driver/program exists inside the character recognition device.” The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hotta U.S. Patent No. 6,345,119 and further in view of Shirasaki U.S. Patent No. 6,341,176.

Regarding to claim 1, Hotta teaches a character recognition device to recognize characters in a text image (abstract) read by an image scanner (FIG. 4, box 1), comprising:

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A multiple recognition device (multiple recognition programs) to separately perform character recognition of the text image using respective recognition methods (FIG. 4, boxes 9-11, and box 15);

An extraction device to extract locations of non-coinciding results (misrecognized cluster of characters) in the characters recognized by the respective recognition methods (FIG. 18, S26); and

An output device to output the amended non-coinciding results (column 7, lines 28-34).

Hotta does not clearly indicate the teaching of an output device to designate the non-coinciding locations extracted by the extraction device and to output character recognition results for the text image. Shirasaki also teaches a character recognition method that corrects misrecognized characters (abstract) and outputs the non-coinciding characters (misrecognized characters) (FIG. 33, G6-G8). Modifying Hotta's method of recognizing and correcting misrecognized characters according to Shirasaki would be able to further output and display the misrecognized character so that the operator can further select the appropriate character. Also, it is a designer choice of whether to display the misrecognized characters to further verify the recognized characters by the operator. This would improve processing and therefore, it would have been obvious to one of ordinary skill in the art to modify Hotta according to Shirasaki.

Regarding claim 2, as explained in claim 1, Hotta further teaches a first recognition device (first program module) to recognize the characters in the text image using a first character recognition method (one-character recognition) (FIG. 1, element 102); and a second recognition device (second program module) to recognize the characters in the text image using a second

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character recognition method different from the first character recognition method (personal handwriting characteristics processing) (FIG. 1, element 104);

For claims 3-4, as discussed in claim 1, since Shirasaki teaches the concept of recognize and output the non-coinciding results. It would be obvious that that output device would show the contrast (difference) between the text image and the character recognition result so that the operator would be able to distinguish the misrecognized characters. For further elaboration, please refer to Shirasaki (FIG. 17, C6-C9 and FIG. 44).

Regarding claims 5-6, as discussed in claims 3-4, Shirasaki teaches a character recognition device further comprising:

A display having a display screen to display character recognition results (FIG. 44),
Wherein the output device to contrasts the text image and the character recognition results while displaying the character recognition results on the display screen, and displays a cursor in a display area of the character recognition results while display the text image in the format that designates the location (horizontal and vertical distance, X and Y) of the text image coordinated at the position of cursor (column 27, lines 1-37).

Referring to claims 7-8, Shirasaki further teaches a character recognition device further comprising an output device to output a symbol that do not coincide instead of the recognized characters (FIG. 4, FIG. 19, FIG. 35, and FIG. 40).

Regarding claims 9-10, Shirasaki discloses a character recognition device further comprising an output device to output the recognized characters with a high evaluation value for the non-coinciding locations that have the same number of recognized characters in an output format that is different from the output format of the non-coinciding locations (FIG. 43-44).

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For claims 11-12, Shirasaki also teaches an output device to output the recognized characters of the non-coinciding locations selected using a prescribed standard (threshold value) (FIG. 9, A66) for the non-coincident locations with a different number of recognized characters in a format that is different from the output format for the non-coinciding locations

Regarding claims 13-14, Shirasaki further teaches a character recognition device further comprising an output device to output in a format indicating that the recognition results coincide but have a low recognition liability (level of uncertainty) (column 3, lines 1-26, 59-67 and column 4, lines 25-40).

For claims 15 and 16, please refer back the claims 1-2 for further explanation.

CONCLUSION

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to character recognition and correction:

U.S. Pat. No. 5,557,789 to Mase, teaches text retrieval method and apparatus based on a handwritten keyword.

U.S. Pat. No. 6,320,983 to Matsuno, teaches method for character recognition with a program making a computer execute the method recorded therein.

U.S. Pat. No. 5,228,100 to Takeda, teaches method for producing from document image a form display with blank fields and a program to input data to the blank fields.

U.S. Pat. No. 5,727,130 to Hung, teaches genetic algorithm for constructing and tuning fuzzy logic system.

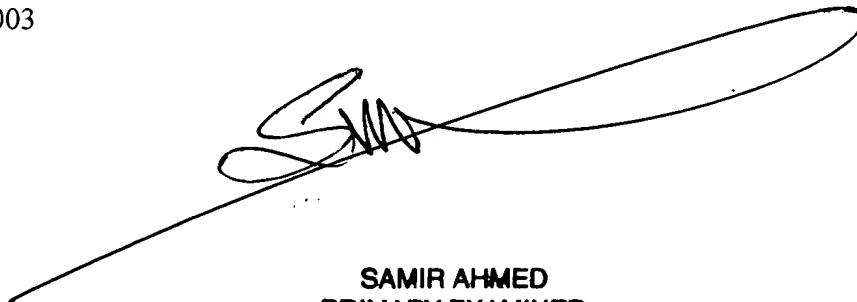
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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC Customer Service whose telephone number is 703-306-0377.

BL
October 28, 2003

A handwritten signature in black ink, appearing to read 'SAMIR AHMED', with a long horizontal line extending to the left.

**SAMIR AHMED
PRIMARY EXAMINER**